

SALES SYSTEM WITH BUYER PRICE SELECTION

Cross-Reference to Related Application

This application is related to a copending United States Patent application entitled "Sales System With Sales Activity Feedback," filed on the same day as this application, and herein incorporated by reference.

Field of the Invention

This invention relates to computer-based systems and methods that enable sales transactions through a communications network.

Background of the Invention

There are a variety of different types of network-based sales systems now in existence. A number of these implement the traditional English auction. This mechanism efficiently allocates individual lots by awarding them to the buyers who attribute the most value to them. But English auctions are not necessarily an optimum mechanism for selling larger quantities of goods, such as seasonal retail items, overstock, or discontinued merchandise, and these types of goods are therefore often sold using other types of electronic sales systems.

The simplest of these alternate systems strive to reproduce an in-store shopping experience in which goods are offered for sale at a particular non-negotiable markdown price. This approach requires sellers to gauge the demand for their products so that they can determine a price that is high enough to allow them an acceptable return, but not so high that few or no buyers will purchase them. This process can be difficult and time consuming, and may be too much so to be warranted for relatively small lots of goods. And setting a particular price can also allow some individuals who place a high value on an item to buy it for less than that value.

So-called Request-for-Proposal (RFP) systems allow buyers to place bids, which sellers can then choose to satisfy. These systems can allow sellers to provide the same

presenting a purchase acceptance control can request that the user signal acceptance using dial keys for a telephone connected to the telephone network. Acceptance of the reminder command in the step of receiving a reminder command from the user can be contingent on the receipt of contact information in a step of receiving contact information for the user, but with the step of presenting the item being independent of the receipt of any contact information from the user. The step of receiving a reminder command can be responsive to only a single click on a reminder control. The step of presenting can further present a plurality of time-separated price choices from a falling-price schedule. The step of presenting can further present a plurality of price choices including a present price and at least one future price, and the method can further include the step of displaying a present purchase control button next to the present price and a future purchase control button next to the future price.

In another general aspect, the invention features a network sales system for use in communicating with a sales server via a network that includes an item identification area in a first terminal and responsive to the sales server via the network, and a plurality of reminder request controls in the first terminal for the same item identified in the item identification area and having outputs provided to the sales server via the network.

In preferred embodiments, the system can further include an alert signal generator in a second terminal, with the alert signal generator being also responsive to the sales server. The system can further include a reminder purchase offer control responsive to the sales server. The reminder request controls can be responsive to only a single click on a reminder control. The item identification area can be operative to present a series of time-separated future price choices from a falling-price schedule, with the future time-separated price choices are each associated with a one of the plurality of reminder request controls.

In a further general aspect, the invention features a networked sales system, comprising means for presenting via a first network an item on a sales screen to a user, means for communicating a variable price schedule for the item to the user, means for receiving a reminder command from the user associated with an entry in the schedule, the reminder command including a price selection for the item, and means for notifying the user when the entry in the schedule is reached.

In another general aspect, the invention features a networked sales method that includes presenting via a first network an item on a sales screen, receiving a supply-driven agent command from a user for the item, and awarding the item to the user when predetermined supply conditions are reached for the item.

In preferred embodiments, the step of receiving a supply-driven agent command can receive a maximum price amount with the step of awarding only awarding the item if the price does not exceed maximum price amount. The maximum price amount can be used to resolve conflicts between supply-driven agent commands received from different users. The step of monitoring the supply conditions can operate continuously in near real time. The step of presenting can present a plurality of time-separated price choices from a falling-price schedule. The step of presenting a plurality of price choices can display a present price and at least one future price, and the method can further include the step of displaying a present purchase control button next to the present price and a future purchase control button next to the future price.

In a further general aspect, the invention features a network sales terminal for use in communicating with a sales server via a network that includes an item identification area responsive to the sales server via the network, and a supply-driven agent control for the item identified in the item identification area and having an output provided to the sales server via the network.

In preferred embodiments, the supply-driven agent control can include a maximum amount selector and a submission control. The item identification area can present a plurality of time-separated price choices from a falling-price schedule. The terminal can further include a present purchase control button next to a present price in the plurality of time-separated price choices and a future purchase control button next to a future price in the plurality of time-separated price choices.

In another general aspect, the invention features a networked sales system that includes means for presenting via a first network an item on a sales screen, means for receiving a supply-driven agent command from a user for the item, and means for awarding the item to the user when predetermined supply conditions are reached for the item.

In a further general aspect, the invention features a networked sales method that includes displaying an item identifier for an item on a sales screen, displaying a price box for the item on the sales screen, and displaying via a first network a plurality of price choices for the item in the price box.

In preferred embodiments, the step of displaying an item identifier can include a step of displaying an image of the item on the sales screen and the step of displaying a price box can display the price box proximate the image of the item. The step of displaying an item identifier can include a step of displaying an image on the sales screen with the step of displaying a price box displaying the price box to overlap the image of the item. The step of displaying a plurality of price choices can display the plurality of choices as a series of user price selection controls. The step of displaying a plurality of price choices can display at least one of the user price selection controls as a control that is responsive to a single actuation to place a bid on the item. The step of displaying a plurality of price choices can display at least one of the plurality of choices as a user price selection control that is responsive to a single actuation to place a bid on the item. The price box can have one curved edge. The price box can have a circular marking near one of its edges. The method can further include further steps of displaying price boxes for different items and further steps of displaying price choices for those items on the same screen. The method can further include a step of displaying an image for each of the items on the sales screen. The method can further include the step of displaying further price information for the item in response to user interaction with the price box. The step of displaying further price information can display the information in a window that overlays an area of the screen in which the price box and the item identifier are displayed. The step of displaying can be responsive to the user locating a pointing device cursor above a screen area associated with the item. The price box can further include an accessorize button that is responsive to user input to retrieve information about items available that complement the item for which the price box is displayed. The step of displaying a plurality of price choices can display a present price and a present purchase control button next to it. The step of displaying a plurality of price choices can display a future price and a future purchase control button next to it. The step of displaying a plurality of price choices can display the plurality of choices as a series of displayed price

Systems according to the invention may be further advantageous in that they can present their prices in a practical and understandable manner. By placing a selection of prices in an intuitive price box, which can be placed near an image of the item, users can immediately understand their options and take action on these options. And by providing for immediate bidding and/or reminder requests, systems according to the invention can enable the user to efficiently take action on a large number of items in a short period of time.

Brief Description of the Drawings

Fig. 1 is a block diagram illustrating a network sales system according to the invention, including an illustrative breakdown for its sales server;

Fig. 2 is a buyer's terminal screen view of an illustrative item pricing window in quantitative feedback mode for an item for sale on the network sales system of Fig. 1 at a first point in time on the second day of a sale;

Fig. 3 is a buyer's terminal screen view of the item pricing window of Fig. 2 in qualitative feedback mode at a second point in time on the second day of the sale after several sales transactions on that day;

Fig. 4 is a buyer's terminal screen view of the item pricing window of Fig. 2 in quantitative feedback mode at a third point in time on the second day of the sale after several reservation transactions on that day;

Fig. 5 is a buyer's terminal screen view of the item pricing window of Fig. 2 in quantitative feedback mode at a fourth point in time on the second day of the sale after exhaustion of the item;

Fig. 6 is a flowchart illustrating the operation of the system of Fig. 1;

Fig. 7 is a buyer's terminal screen view of an illustrative item pricing window in quantitative feedback mode with reservations enabled for the item for sale on the network sales system of Fig. 1 at the first point in time on the second day of the sale;

Fig. 8 is a buyer's terminal screen view of an illustrative catalog window in qualitative feedback mode for an item for sale on the network sales system of Fig. 1 at a first point in time on the second day of a sale;

combined, separated, or recast as appropriate. And while the system's user interface is based on software-based graphical user interface elements, it could also be implemented in other ways, such as using physically actuated controls or auditory prompts. In addition, while the system's user interface elements are presented as displayed in windows, one of ordinary skill in the art would recognize that they could also be displayed in other types of display regions, such as screens, cards, or pages.

Sales systems according to the invention can be implemented as part of larger systems that also implement other sales mechanisms. One such system that is a suitable host for features described in this application is presented in a co-pending, commonly owned application entitled "Publishing System for Network-Based Sales," filed November 16, 1999, issued serial no. 09/441,385, and herein incorporated by reference.

Referring to Figs. 1 and 2, an item pricing window 30 can include a bid area 32, a price schedule area 34, a variable-price agent area 36, and a utility area 38. The bid area presents information about the overall offering, including a manufacturer's suggested retail price (MSRP), an opening price, a current price, an open date, a close date, and a listing number. In the present embodiment, the bid area is presented as a boxed table in the item pricing window.

The price schedule area 34 includes a date sequence indicator 40, which can be a columnar list of dates derived by the scheduling logic 12G. It also includes a price indicator area 42, which can be a columnar list of prices, and a markdown indicator area 44, which can be a columnar list of markdown percentage values. A demand indicator area 46 is located in the price schedule area as well, and it includes one or more demand indicators that can be associated with the dates and/or prices. In the embodiment shown, the demand indicator takes the form of a bar chart with variable-length bars for each date and price. One or more odds indicators 48 can also be provided, and in this embodiment these take the form of a textual indication for each date and price. The schedule area 34 further presents a series of buy buttons, including one or more present buy buttons and one or more future buy buttons.

In the embodiment shown, the schedule area 34 is organized as a table, with a date indicator, a price indicator, a demand indicator, an odds indicator, and buy buttons being located side-by-side for each row in the schedule column. But numerous other

Once the offering is under way, users can choose to purchase items at the current price by actuating a present buy button. If the user is already registered with the sales system, this selection will preferably lead him or her to one or more confirmation windows allowing him or her to confirm his or her selection and complete the purchase transaction. If the user is not registered, he or she will first be lead to user registration windows.

The user may also actuate one of the future buy buttons to place a bid for the item at a later date, when the item is scheduled to reach one of the lower displayed price levels. This type of purchase choice constitutes an unconditional promise by the user to buy at the stated price level, and the system will fulfill the purchase as soon as the stated price is reached. Upon detecting the user's selection, the system will therefore lead him or her to one or more confirmation windows allowing him or her to confirm his or her selection and complete the purchase transaction at the time of making the commitment. If the user is not registered, he or she will first be lead to one or more user registration windows.

Users can also choose the variable-price agent to make their purchase by actuating the future buy button 54 in the variable-price agent area 36 with a maximum price in the price entry area 52 to invoke the supply-driven agent logic 12C. The maximum price does not need to be set at one of the price points displayed. The variable price agent will then await low levels of supply for the item and award the item at the price reached at that time, consistent with the maximum provided by the user in the price entry area. Note that when there is insufficient supply to satisfy all variable price agent bids, the maximum prices in these bids will be used to resolve conflicts, in much the same way that absentee bids are resolved in a traditional English auction. And while each of the three types of bids described above can involve some sort of confirmation window, it is also possible to allow registered users to make firm commitments for present and future purchases by a sole click on a present or future buy button.

The demand indicators provide feedback to the user about the state of the offering. These indicators can be derived by the demand derivation logic 12F from the supply available and/or different types of purchase commitments made, as tabulated by the present and future sales logic 12B. They may also take into account reminder requests,

the bar is proportional to the number of items already sold. The width of a central area of the bar is proportional to the number of items already reserved at the level for which the bar is displayed. The width of a right area of the bar is proportional to the number of items for which no commitment has been made. The areas are displayed in red, orange, and green, respectively.

The odds indicators 48 express the odds of obtaining particular goods at any particular price level. These indicators can be derived from the supply available, different types of purchase commitments made, and/or from reminder requests. The information that they convey can therefore be very similar to that conveyed by the demand indicators, making their derivation a matter of a single multiplication. The odds indicators may also differ from the demand indicators in a variety of ways. For example, the odds indicators could be less precise than the demand indicators, they could be more conservative than the demand indicators, or they could even be based on formulae that take different factors into consideration.

Referring to Figs. 3 and 6, demand values can also be used to adjust the offering schedule's timing, prices points, or both. As shown in Fig. 3, for example, the sales schedule can be shortened if there appears to be little interest in an item at the current price. Reservation and reminder levels at lower prices can also be considered in making this decision.

There are numerous ways to implement demand feedback in a system, with design variables ranging from the type of goods, the available alternatives, and prior experience with similar goods, to economic theory, statistical analysis, and inferences drawn from market research. This process of developing demand-derivative functionality will also be likely to be a dynamic one, with seasonal, generational, and even weather-dependant influences. And a model that works well with particular goods one year might not work well for similar goods the next year for reasons that might only be apparent after the offering. So-called resistance points, which may be influenced by buyer cost considerations or available alternatives may also introduce significant non-linearities into the models. It is therefore expected that the derivation of exact demand feedback models for families of products will be an ongoing and relatively complex process.

In one embodiment, each time a tracked event (step 100), such as a purchase or purchase commitment, is detected, and the supply is not fully depleted (step 102), the demand can be adjusted. Such adjustment can include extending or shortening time increments, or raising or lowering price points. In one embodiment, if little or no demand is detected for the item at the current price level (step 104), the price can be reduced for current and/or later price points (step 106). Detecting somewhat higher levels (step 108) can lead to somewhat higher price reductions (step 110). When a particular mid-level demand threshold is exceeded (step 112), the duration of the current and/or later price periods can be extended (step 114). Detecting moderately high levels of demand (step 116) can lead to moderate price increases (step 118) for current and/or later price points, and detecting higher levels of demand (step 120) can lead to higher price increases (step 122) for this and/or later price periods. The levels at which price or timing is adjusted can be continuous or stepped. Preferably, the system makes the adjustments on a near-real-time basis, with a response time of well under an hour and preferably under a minute.

As illustrated in Fig. 3 price reservations can cause lower price points to be eliminated. If buyers sign up for all of the items that are available at a later price, such as \$5.00, no further orders can be placed at this price. Additional buyers can now make higher offers, such as \$10.00, but no longer have access to controls for the sold-out price points.

Referring to Figs. 4 and 5, as the offering progresses, the system displays fewer purchase controls, and the demand indicators and odds indicators change to reflect ongoing purchasing activity. Finally, when the last item is sold, the item window displays an indicator that the offering has ended, with the indicators also displaying final numbers. These final numbers can allow users who bought or failed to buy an item an idea of the strength of their bidding strategy.

Referring to Fig. 7, the item pricing window can also include a tickler feature that can be implemented by the reminder logic 12D. This feature provides for the display of reminder request buttons for future price points. The user can select one of these buttons if he or she is interested in an item at a future price point, but is not willing to make a

firm commitment to buy it at the corresponding time. Once the price reaches the point specified by the reminder request, the system sends a reminder message to the user.

Preferably, the reminder message is sent in such a way that the user is alerted to the reminder by an alert mechanism. This can involve sending the reminder via an alternative network, such as via a telephone or pager network. It is also preferable for the alert message to include a response feature allowing the user to respond to the message with a commitment to buy the item. With a telephone reminder message, this response feature could request that the user press a digit key on their telephone set to signal their acceptance of the reminder offer, using DTMF signalling, for example. Two-way pagers, personal data assistants, and other wireless terminals can allow the user to actuate a button on a control window for the offer, using WML cards, for example.

It is generally advantageous to provide that the tickler feature be as easy to operate as possible. In one embodiment, for example, a registered user only needs to press one of the tickler buttons to complete the reminder request. There are no confirmation windows of any kind for registered users. This makes it very easy for the user to sign up to follow a number of different offerings.

Note that selecting a reminder for a particular price can be treated as an event that affects demand computations. Such an input might also be weighted by the user's tendency to accept reminder offers. A request by a user who has requested numerous reminder offers in the past, but has never accepted one, would affect demand less than a

request by a user who has a track record of consistently accepting his or her reminder offers.

Referring to Fig. 8, the system 10 can allow for item browsing via a catalog window 130. This window includes a number of item images 132 associated with price boxes 134. Preferably, the outline of these boxes is shaped to imitate some readily recognizable sort of price tag or price label, to clearly convey their function to users. In one embodiment, the price tag is generally rectangular with two corners curved, and a hole to simulate a tag affixed to a garment with a string. Other visual features can also convey the impression of price tag or label, however, such as borders, shadowing or simulated perforations. Each price box can include the item's MSRP, its current price, and its current discount. Also included in each box are a present buy button 136 and a future buy button 138. Pressing the present buy button has the same results as pressing the present buy button in the item pricing window.

Referring also to Fig. 9, pressing a future buy button 138 for an item can bring the user to the item pricing window 30, or it can cause a smaller item pricing window 140 to be overlaid on top of the catalog window 130. In one embodiment, the overlaid window is also displayed in response to the user simply placing his or her mouse over the image of the item or one of the controls for the item. This ready availability of the pricing information can allow a user to quickly decide whether he or she should make a current or future offer on the item, but does not clutter the window with too much information, which could interfere with browsing. The catalog window can also include a number of navigation commands 126 in a navigation window 128, allowing the user to access other catalog pages.

Referring to Fig. 10, clicking on an image for an item can bring the user to a gallery window 150. This window shows a larger version of the image 152 and a larger price box 154. The larger price box can include more pricing information than is shown in price boxes displayed in the catalog window, but less than is shown in the item pricing window. In one embodiment, the price box includes the item's MSRP, its current price, its current discount, its closing price, and its closing date. Also included in the price box are a present buy button 156 and a future buy button 158, as well as an accessorize button 160. This button leads the user to a catalog page that presents items that complement the

displayed item. By linking this type of information, users are likely to see more items that they are likely to want to purchase. And knowing that particular accessories are available for an item may make a user more likely to buy that item.

Information can also be compiled based on buyer's use of the system. This information is particularly rich, because it is based not only on sales actually made, but on failed bids and reservations as well. Using this information, a buyer can be informed that he or she is consistently close to winning bids for one type of goods, for example, and that small increases in his or her bids would result in many more awards of items. Or users can be informed of upcoming offerings of goods that are similar to those they bid on but lost.

The present invention has now been described in connection with a number of specific embodiments thereof. However, numerous modifications which are contemplated as falling within the scope of the present invention should now be apparent to those skilled in the art. Therefore, it is intended that the scope of the present invention be limited only by the scope of the claims appended hereto. In addition, the order of presentation of the claims should not be construed to limit the scope of any particular term in the claims.

What is claimed is: